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May 2019

Request to withdraw Article Number 2011 and effect changes

Nasir Koranteng Asiedu

University for Development Studies, Ghana, nasmo2005@yahoo.com

Molly Chikafa

Rhodes University, South Africa, chikafamolly@gmail.com

Happiness Michael Onuoha

Covenant University, Nigeria, happiness.michael-onuoha@covenantuniversity.edu.ng

Andrew Watson Malekani

Sokoine University of Agriculture, malekani@suanet.ac.tz

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Asiedu, Nasir Koranteng; Chikafa, Molly; Onuoha, Happiness Michael; and Malekani, Andrew Watson, "Request to withdraw Article Number 2011 and effect changes" (2019). *Library Philosophy and Practice (e-journal)*. 2512.

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DEPARTMENT OF INFORMATION SCIENCE



GROUP ASSIGNMENT COVER PAGE

Student Number	Name	Surname (in alphabetical order)
	Nasir Koranteng	Asiedu
	Molly Weziwe	Chikafa
	Andrew Wilson	Malekani
	Happiness	Michael-Onuoha

Module Code	CPD 10 (Group 4)
Title of Assignment	Institutional repositories containing digitized material...
Name of Lecturer	Dr. Marlene Holmner
Date of Submission	23 November 2017
Declaration:	<i>I declare that this assignment, submitted by our group, is the group's own work and that we have referenced all the sources that we have used.</i>
Signature of Leader	N.K Asiedu

Date received	
Signature of administrator	

Mark	
Date	
Signature of Lecturer	

Institutional Repositories Containing Digitized Material (**special collections**) are making “**lost or hidden cultures accessible**. What are the advantages and disadvantages of this trend?

GROUP MEMBERS

Nasir Koranteng Asiedu

Andrew Watson Malekani

Molly Weziwe Chikafa

Michael-Onuoha Happiness

Abstract

Knowledge sharing is very important in this world of ours but there is always the need for one to be careful as well with regards to the kind of information he or she decides to share. Institutional Repositories exist to make sure that there are no boundaries between humans and information consumption. With this objective of the existence of institutional repositories, this paper reviewed its merits and demerits in making accessible lost/hidden culture (Special collections). Arksey and O'Malley Framework for literature and scoping review was adopted or used in this study. It provides guidelines for researchers to follow especially when doing a study of this nature. With regards to the methodology, several databases were widely consulted to get the needed and relevant or related information for the study. The outcome of the study revealed the following demerits and merits of institutional repositories in making lost/hidden cultures accessible through the sharing of one's special collections.

The advantages of the IR in relation to making lost/hidden cultures accessible are; to enjoy replicas of artefacts and museum environments from a distance and to avoid the spatial and temporal limitations of an actual visit to a museum, immediate access to high-demand and frequently used items; easier access to individual components within items, the ability to reinstate out of print materials; the potential to display materials that are in inaccessible formats, for instance, large volumes, or maps, allowing dispersed collections to be brought together, the ability to enhance digital images in terms of size, sharpness, colour contrast, noise reduction, the ability to satisfy requests for metadata surrogates (photocopies, photographic prints, slides, etc. and reducing the burden of cost of delivery; the potential for presenting a critical mass of materials. The following are the disadvantages of IR with regards to context under study; they affect the balance of institutional powers as some departments proceed faster

than others; they rely on unproven methods for long term digital preservation; they may need quick wins to sustain institutional support; initial costs may be high as contributors perceive high risks and duplicate effort to reduce them; depositing in an IR adds extra workload for staff; institutional repositories may breach the confidentiality of data in some research; institutional repositories risk reducing the value of the peer review process; institutional repositories will expose more work to plagiarism.

1.0 Introduction

The world since its evolution has always made it a point to preserve the cultural heritage and other works of its people. The reason behind this, is to allow new generation to see what the older generation did during their time and stay on earth. The act of preserving in order to ensure continuity in the society has always been the practice and order of the day right from the period of antiquity to the renaissance. Since creation, man has been encouraged to share knowledge and not only to preserve it. As witnessed in this world, there are so many ways of preserving and sharing knowledge. One of the oldest ways is what we term as the oral tradition and with this method so much knowledge has been shared from generation to generation or across generations (Paulin & Suneson, 2012).

The advent of technology has gradually ushered the world into what we now call digital or information era. This has paved the way for several ways of storing, preserving and disseminating knowledge for human consumption to come into existence just like the traditional ways but this time in a more technological manner. Institutions like universities exist to train and impart knowledge into students and the whole university community. It is also incumbent on them to ensure that they preserve their scholarly or intellectual works and make them available to the world as a form of knowledge sharing. The idea and agitation for knowledge to be freely accessible brought about Open Access institutional repositories which are popularly leading the way on this course (Abrizah, Noorhidawati & Kiran, 2017).

Institutional repositories have been variously defined. One of such definitions refer to it as the collective intellectual or scholarly output of an institution stored and preserved in a manner that can be easily accessed by the intellectual world (Yeates, 2003). Institutional repositories came into existence to help universities preserve their own intellectual heritage but there are several school of thoughts who have varied views and opinions on the importance of institutional

repositories. A study conducted by Davis & Connolly (2007) indicated that Cornell University's Dspace is underpopulated and underused by its faculty and the university community at large.

Nigeria, with a higher number of universities and research institutions compared to any other country in Sub-Saharan Africa, produces a large volume of research outputs that are of paramount value to the scholarly community. Unfortunately, these outputs gather dust in various departmental offices and institutional libraries without being accessed and consulted. Some are eventually published in a local journal that has minimal circulation due to poor distributorship, marketing or prestige. Many problems make the work of Africa's repository managers difficult and frustrating. These include intermittent electricity supplies (Nigeria being a particular offender in this regard), poor Internet connectivity and inadequate broadband capacity, lack of on-line storage capacity as repositories grow in size, a lack of training and specialist IT expertise among librarians, and a lack of funds to finance the digitization of earlier materials. Putting African Repository managers in touch on a regular basis with one another, as well as with other knowledgeable persons in the digital repository world, could be useful so that problems discussed and possible solutions learnt thus far are implemented. Concerning that, I believe that the contacts made in this program will continue to work together towards transforming Africa's scholarship and culture. Repositories really do hold out the promise of transforming the visibility of African scholars in the research (Molteno, 2016).

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1.1 Definition of Terms

In order to discover the purpose of an institutional repository in this context, it was seen to be very necessary that certain key terms or terminologies are understood to ensure and enhance better understanding of the topic under study. The following terms were therefore deemed necessary to be defined.

Digitized heritage materials – These are made up of computer- based materials of enduring value kept for future generations. This term emanates from different communities, cultures, industries, sectors and regions. (UNESCO, 2003)

Special collections in any generation or iteration are “special” because of the rarity, scarcity, uniqueness, and distinctiveness of their holdings. Each institution that prides itself with a repository of such gem has the “only” copy of an item or a “comprehensive” collection of a creator or subject that speaks to multiple disciplines. The niche cannot be so narrow that only a handful of people can benefit, nor so broad that it is not necessary to visit in person. However,

special collections repositories are not museums. The intent is for collection materials to be accessible and in use to create scholarship, not stored and exhibited periodical. (Evans,2015)

Lost or hidden collections according to Yakel (2005) refers to “materials that cannot be found in the online catalogue or may be found there under a collective title or un/under processed primary sources”. McIntosh et.al, citing Brannon et.al (2013) defined **hidden collections** as those collections owned by an organization, but lacking bibliographic information that would facilitate its use by an institution, patron or visitor.

Culture are the distinctive ideas, customs, social behavior, products, or way of life of a particular nation, society, people, or period. (OED online, 2017)

An **archive** is a place in which public records or historical materials such as documents are preserved. (Merriam Webster Online dictionary, 2017)

Heritage is our legacy from the past, what we live with today, what we pass onto our future generations because it is valued. (UNESCO, 2003)

Preservation is the continuous process of creating and maintaining the best environment possible for the storage and/ or use of an artefact to prevent damage or degradation and to enable it to live as long as possible. It has sub- activities, such as conservation and restoration, which involves specific treatments to an artefact to stabilize and preserve it for the future, or to restore it to a state of its former glory (Deegan & Tanner 2006) Not all-digital material are of enduring value, but those that are, require active preservation approaches if continuity is to be maintained (UNESCO,2003).

1.2 Research Problem

Africans place very strong values on their culture and so are other nations on various continents around the globe. The emergence of institutional repositories is making lost/hidden cultures more accessible by the world. The process or act of digitizing special collections like rare or irreplaceable materials/documents and archiving them in an institutional repository even suggests that without the past the future is always bleak and so there is the need to preserve the past so that the way of life of the society will always be available to the present generation so that they will not be deceived by what others may say without knowing the facts.

In an attempt to understand the role of institutional repositories in the context of making lost/hidden cultures accessible, this paper therefore seeks to find out and bring to the fore the advantages and disadvantages of this trend.

1.3 Purpose of the Study

The purpose of this study was to find out the advantages and disadvantages of institutional repositories in making lost or hidden cultures accessible.

1.4 Objectives of the study

The following are the objectives of the study:

- i. To find out the development of institutional repositories in Africa, specifically, Ghana, Nigeria, South Africa and Tanzania.
- ii. To find out the advantages and disadvantages of institutional repositories on the development of special collections
- iii. To find out the challenges institutional repositories face in their quest to make intellectual and hidden contents accessible
- iv. To make recommendations based on the outcome of the study

1.5 Research Questions

The objectives of the study were derived from the following research questions:

- i. What is the level of development of institutional repositories in Africa, specifically, Ghana, Nigeria, South Africa and Tanzania?
- ii. What are the advantages and disadvantages of institutional repositories in Africa?
- iii. What are the challenges institutional repositories face in making intellectual and hidden contents accessible?

1.6 Scope and limitations of the Study

This study was limited to institutional repositories in specific academic institutions in South Africa, Ghana, Nigeria and Tanzania. The reason being that, the study was given a very short time frame within which to submit its outcome. The study therefore seeks to caution that the outcome from this research should not be generalized because there was no data collection which was subject to rigorous analysis.

1.7. Significance of the study

This paper seeks to add to academic knowledge by evaluating the good and bad of institutional repositories in making lost/hidden cultures accessible.

2.0 Literature Review

Literature review is supposed to help the researcher to be able to summarize, explain, evaluate and describe the available literature. One of the few reasons for conducting literature review is for a researcher to be able to position his/her study into other related studies so as to be able to identify gaps and flaws in those studies. It also helps by justifying the study and improves the understanding of the study (Boote & Beile, 2005). This paper was therefore reviewed under the following subheadings;

- Institutional repositories in Africa specifically Ghana, Nigeria, Tanzania and South Africa
- Advantages and disadvantages of institutional repositories
- Challenges institutional repositories face

2.1 Institutional Repositories in Africa

2.1.1 Ghana

Ghana's University for Development Studies' Institutional Repository

The history behind making information openly accessible dates back to several centuries. There were several reasons why people or intellectuals around the globe wanted easy access to information without subjecting themselves to the payment of monies before they can access all kinds of information. In Africa, specifically, Ghana, the first academic institution to establish an institutional repository was the Kwame Nkrumah University of Science and Technology (KNUST) in 2008. As the famous adage goes “Knowledge is power”, therefore it is always in the right direction to not only preserve knowledge but share as well. This resulted in the establishment of an institutional repository by KNUST among other reasons. The idea was however adopted by other public and private universities in Ghana to also come out with their own repositories.

The establishment of the institutional repository for KNUST for the first time saw them moved to 52nd on the webometrics ranking for the only 100 best universities in Africa. This success story as earlier indicated motivated other universities in the country to follow suit.

Academic institutions like University of Cape Coast, Ghana, University of Education, Winneba, Ghana, Methodist University College, Ghana and Ghana Institute of Management

and Public Administration for the first time benefitted from Consortium of Research and Academic Libraries in Ghana and International Network for Availability of Scientific Publication's initiative to help these universities start their own repositories (Corletey, 2011). My institution, University for Development Studies, Tamale, Ghana, operates a multi-campus system. This means it has more than one campus. The campuses have sprung all over the northern regions of Ghana, namely; Upper West, Upper East and the northern region. The university became the fourth public university in Ghana after Kwame Nkrumah University of Science and Technology, Kumasi, University of Cape Coast and University of Education, Winneba, to have an institutional repository in the year 2014. In order to enhance higher visibility and access to archived documents in the repository, the UDSspace as it is called is indexed by Yahoo. Bing, Google and Yandex. It has also been registered to the OPENDOAR, PubMed and Worldcat. This repository hosts a variety of scholarly materials, including journal articles, books, conference proceedings, unfortunately it has not archived any special collection since its creation (Thompson et., 2017).

2.1.2 Tanzania

Experience with Institutional Repository at Sokoine National Agricultural Library (SNAL)

This Institutional Repository (SUA IR) started recently (2014) out of the need to manage publications from this institution. This repository was built and is maintained by the university library (Sokoine National Agricultural Library-SNAL), in order to collect, preserve and disseminate scholarly output generated by University research community (staff and students) members. This repository hosts a variety of openly accessible materials including scholarly articles and books, theses and dissertations, conference proceedings and technical reports. The interface is in English and it contains RSS feeds to alert users of new content.

It has 9 communities listed below (each one indicating the number of publications up to 02 November 2017):

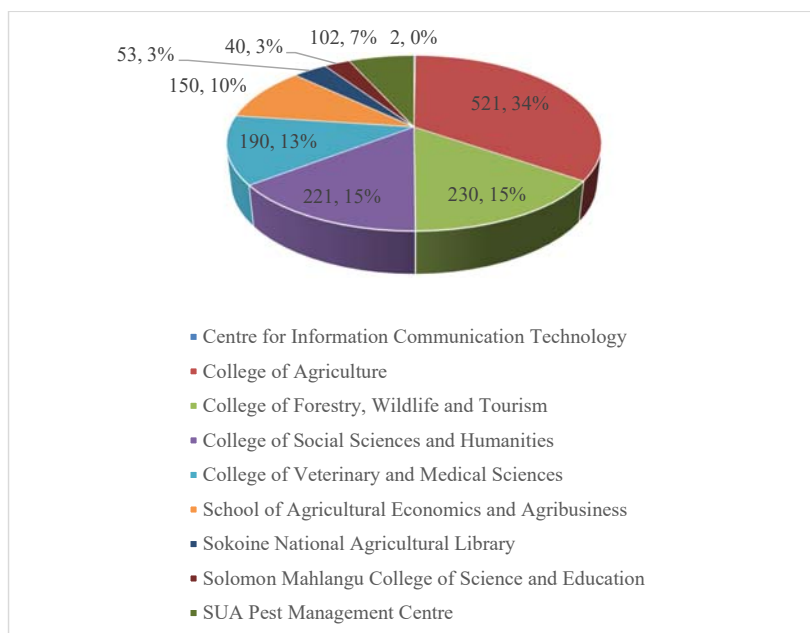


Figure 1: IR collections in the 9 communities at SNAL (Source: SNAL website)

Thus, the total number of publications collected in the 9 communities so far is 1,509 (<http://www.suaire.suanet.ac.tz:8080/xmlui/>).

When compared to other IRs in the East African region, the position of SUA IR stands as shown in Figure 2.

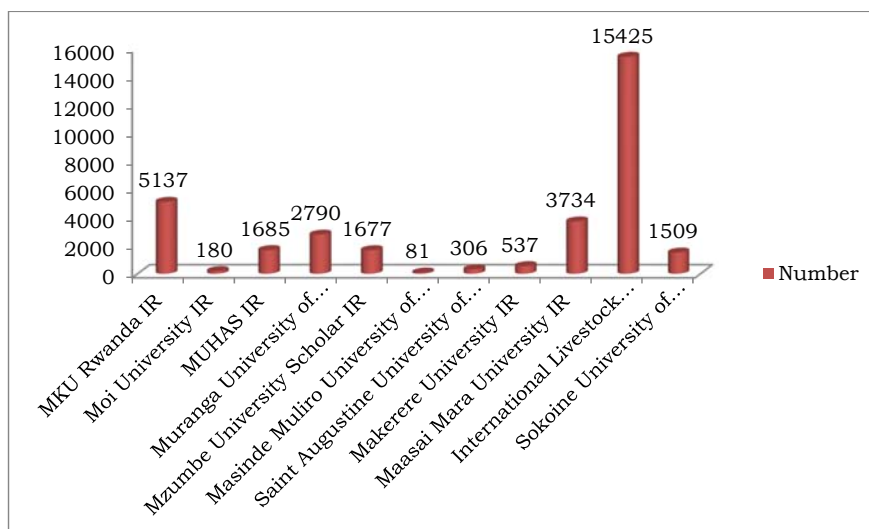


Figure 2: IRs for selected east African Universities (Source: 2006-2017, University of Nottingham, UK)

The major challenges being experienced since it started are mainly lack of commitments by university staff (mainly research fellows and academic) to do self-archiving of their publications although it is stipulated so in the IR policy document of the university. The library has strived to issue guidelines on how self-archiving should be done but only few staff have and continue to implement this policy requirement. Lack of enough publications for depositing in the repository is another major problem, which in fact emanates from the lack of equipment (heavy-duty scanners) to digitize hard copy of the publications for uploading in the repository. On the part of postgraduate students, it has become a mandatory to submit their soft copies of the thesis and dissertations for archiving purposes but again there are problems that some of them bring empty carriers (flash disks, CDs, DVDs) and some do not open completely rendering it difficult to upload in the repository. In terms of library staff to upload and manage the repository, this is not a big problem although they need regular training to master the skills in this area. Technical problems are also eminent especially in terms of electrical power interruptions and slow internet connectivity.

2.1.3 South Africa

Putting Rhodes University's Institutional Repository into Perspective

The story starts in democratic South Africa. At the very beginning of the century, in the year 2000, the University of Pretoria set up the first repository in Africa. It was mainly for theses and dissertations. Six years later, it expanded to include all staff's newly published output as well as digitizing some historical and archival materials. Other South African universities followed Pretoria's example and, as of July 2016, there are at least 22 university repositories in the country. (Molteno, 2016)

According to Wikipedia, 2017 "In 2005/06 Rhodes became one of the first academic library services in South Africa to launch its digital institutional repository, originally consisting of Theses and Dissertations.

Rhodes University is part of a consortium that established in 1998. The SEALS Digital Commons contains the digital collections of the academic institutions in the Eastern Cape, South Africa. This consortium consists of the academic libraries of the Eastern Cape Province, South Africa. It became a formal academic library consortium in 1999, with the vision to create a virtual library for the Eastern Cape. The member libraries are from the Nelson Mandela University, **Rhodes University**, University of Fort Hare, and Walter Sisulu University. (<https://www.ru.ac.za/library/about/libraryprofile/specialcollectionsarchives/>)

Rhodes University library posits that it is committed to the pursuit of knowledge by connecting people to resources that contribute to the intellectual development of future responsible citizens. **Cory library** digital collections is the Rhodes digital commons –an open access institutional repository of the academic and research output from the Rhodes community. The repository, managed by Rhodes University library. The Cory Library is at Rhodes University, Grahams town, in the Eastern Cape Province of South Africa. Since the initial deposit of Sir George Cory's collections, there has been a particular focus on the history of the Eastern Cape, and on Grahams town itself. There is a strong collection of material on Lesotho, and substantial holdings on the wider history of Southern Africa. The Library's archival holdings include Xhosa history, mission and church history, as well as education, mining, commercial and agricultural history. Collections include:

Manuscripts and archival collection with collections such as family histories and farmer's diaries.

Cape and other governmental publications

Books, both rare and modern

Periodicals and newspapers

Maps, Pictorial materials, Microforms, Video and audio recordings, Digital records

Institutional collections of churches, local, political and non- governmental organizations, business and professional bodies, service clubs, and educational institutions.

Scope of collection in 2016 was as follows, monographs-220393; Rhodes digital commons-12581 making Rhodes digital repository one of the largest and fastest growing in South Africa. Rhodes University library completed the project to digitize and make accessible online all the theses held within the Main & Cory libraries. The oldest Rhodes Theses currently online dates back to 1928. The Repository includes academic and research output from the Rhodes University community (RUL Research Report 2015-2016).

ILAM: International Library of African Music Founded in 1954 by Hugh Tracey is the greatest repository of African music in the world. A research institution devoted to the study of music and oral arts in Africa, it preserves thousands of historical recordings going back to 1929 and supports contemporary fieldwork. It is currently digitizing its collections. Its journal, African Music, is nearly into its fourth decade. ILAM aims to recover, record, analyze, and archive the music of sub-Saharan Africa, with the aim of establishing a theory of music making in Africa and assessing the social, cultural, and artistic values of African music. ILAM is attached to the Music Department at Rhodes University and coordinates its Ethnomusicology Program which offers undergraduate and post-graduate degrees in Ethnomusicology that include training in performance of African music.

2.1.4 NIGERIA

Institutional Repository in Nigeria, the journey so far

Academic and research institutions in many developing countries like Nigeria are still battling to overcome many challenging issues in an attempt to make their research outputs openly accessible by means of Institutional Repository (Adetunji, 2017). The Directory of Open Access Repositories (2017) and author's compilation reveals that sixteen institutions have operational repositories. (www.openoar.org/countrylist.php#Nigeria) In spite of the fact that Nigeria has a quantum of academic and research institutions more than any country in Sub-Saharan, there is a need to embrace Institutional Repository. Nigeria with an estimated

population of over 150 million, has universities, polytechnics, colleges of education, research and allied institutions with the highest number compared to any country in Africa. This has resulted into high volume of research output. These outputs are usually not recognized because they are not made visible due to little or lack of knowledge in Institutional Repository (Adetunji, et.al 2017)

In Nigeria, the idea of Institutional Repository is a new phenomenon with the first IR emanating from the University of Jos. The University of Jos library actually commenced digitization in the mid-eighties. The library was then faced with challenges of managing the increasing order slips for books and journals that had through the years piled up but with the help of the World Bank Loan, computers were acquired in order to enhance the input of order records. While this modest progress was being made in digitization, Carnegie Corporation New York's attention was drawn and University of Jos library was included in its capacity building funding in the year 2003. Afterwards the library was introduced by Carnegie to the Database of African Theses and Dissertation (DATAD) to be a contributing member. Since 2006, the library has been contributing digital copies of theses and dissertations. They started gradually with abstracts but now the story has changed. Other universities like Covenant University had since joined in building and use of Institutional Repositories (www.opendoar.org/countrylist.php#Nigeria).

Covenant University Institutional Repository (CUIR) was birthed on 24th November, 2010 by the joint of the University Library and the Department of Computer Science following the submission of an undergraduate project in that regard. A pilot effort experimented the digitization of documents at the department of Mechanical Engineering. The success of the effort metamorphosed into the committee for the implementation of Institutional Repository in Covenant University. Software Engineering and Intelligence Systems (SEIS), a research cluster in CU, managed the repository for two years before it was handed over to the Library in November 2013. It has since then been managed by the Centre for Learning Resources, i.e. the University Library.

Covenant University had her Institutional Repository operated on two platforms, namely Eprints version 3.3.7. (<http://eprints.covenantuniversity.edu.ng>) and DSpace (<http://dspace.covenantuniversity.edu.ng>). Relying on Stradja Processing Management Model, Covenant University selected DSpace and E-prints which are open source software for the fact that they appear more robust, easy to set up and are amenable to customization. (Nkiko, et.al) In February 13, 2016, it was considered fit that the DSpace Repository is collapsed so as to

aggregate all Covenant University's intellectual property into a single location to prevent the distribution of our rating during the Web Ranking Process. There are various policies guiding the CUIR. The Content Policy states that CUIR holds all types of materials; Deposited items are to include: working drafts; submitted versions (as sent to journals for peer review); Accepted versions(authors' final peer-reviewed drafts); published versions (publishers-created files); Items are individually tagged with: their version type and date; their peer review status; the publication status. The principal language is English.

The first screenshot shows the OpenDOAR search results for the Covenant University Repository. The search criteria are: Any Subject Area, Any Country, Any Language, Any Software, Any Content Type, Any Repository Type. The result is 1 of 1. The repository details are as follows:

- URL:** <http://eprints.covenantuniversity.edu.ng/>
- Organisation:** Covenant University
- Address:** 10 Idiroko Road, Canaan Land, Ota, Ogun State
- Country:** Nigeria
- Location:** Latitude: 7.945604 & Longitude: 4.788873, [Google Map](#)
- Description:** This site provides access to the research output of the institution. The interface is in English.
- Type:** Institutional - Operational
- Size:** 7567 items (2017-11-29)
- OAI-PMH:** <http://eprints.covenantuniversity.edu.ng/cgi/oa2>
- Software:** EPrints, Version: 3.3.7
- Subjects:** Science General; Technology General; Law and Politics
- Content:** Articles
- Languages:** English
- Contacts:** 1. Adeyole Adeyemi (adeyoleadeyemi@aol.com), Administrator; 2. olaseun.olayemi@laftech.com, Administrator
- OpenDOAR ID:** 2022. Last reviewed: 2012-04-25. [Suggest an update for this record](#) - Missing data is needed for: [Policies](#)
- [Link to this record: <http://opendoar.org/id/2022/>](#)

The second screenshot shows the repository policies for the Covenant University Repository. The policies are as follows:

- Metadata Policy** for information describing items in the repository
 - Grade:** Metadata re-use policy explicitly undefined
 - Policy not found
- Data Policy** for full-text and other full data items
 - Grade:** Full data item policies explicitly undefined
 - Policy not found
- Content Policy** for types of document & data set held
 - Grade:** Content policies explicitly undefined
 - Policy not found
- Submission Policy** concerning depositors, quality & copyright
 - Grade:** Submission policies explicitly undefined
 - Policy not found
- Preservation Policy**
 - Grade:** Preservation policies explicitly undefined
 - Policy not found

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The information above gives a summary of the number of items Covenant University has till date, the Software used and the language in which it is disseminated.

The Submission Policy:

Concerning depositors, quality and Copyright, items may only be deposited by accredited members of the institution or their delegated agents. If Covenant University IR receives proof of copyright violation, the relevant item will be removed immediately <http://eprints.covenantuniversity.edu.ng/policies.html#.WhbcDIWnHIU> One of the strategies the Institution used in making sure that Covenant University faculty members upload theses and dissertations on the Institutional Repository for open access is by attaching submissions to their promotions. Before a Faculty appears for promotion his/her articles must have been uploaded on the institutions repository. Theses and dissertations on the digital institutional repositories are classified as unpublished items as long as they are not contained in any journal or book. It is also worthy to point out that in Covenant University, abstracts of articles with transferred or assigned rights are uploaded to the institutional repository (Nkiko, et.al). Covenant University till date has 7567 items uploaded in the CUIR. (<http://eprints.covenantuniversity.edu.ng/view/divisions/>)

Covenant University is yet to engage in the digitization of heritage materials (special collections). The beauty and rewarding of it all is that Covenant University has consistently maintained the first position in Nigeria and occupied the 12th position in the continent and 402nd in the world out of 1,983 registered institutions in the Ranking of Web of Repositories. (<http://covenantuniversity.edu.ng/layout/set/print/News/Covenant-University-Scales-New-Heights-in-Webometrics-Ranking-Among-Peers-in-Nigeria>)

3.0 Design/Methodology/Approach

The paper is primarily a literature and scoping review of the current digitization licensing climate, using an embedding examples from ongoing research projects and recent writings on Institutional Repositories (IRs) and digitization to highlight both opportunities and barriers to the creation and use of digital heritage content from galleries, libraries, archives and museums (GLAM) using Arksey and O'Malley Framework for literature and scoping review.

Scoping review also alternatively called scoping study, scoping project, scoping exercise, scoping report, scoping method, scoping exercise method, as well as literature mapping, mapping of research, evidence mapping, systematic mapping, literature review, and

rapid review, aim to map *rapidly* the key concepts underpinning a research area and the main sources and types of evidence available, and can be undertaken as stand-alone projects in their own right, especially where an area is complex or has not been reviewed comprehensively before (Colquhoun *et al.*, 2014; Pham *et al.*, 2014).

Arksey and O'Malley (2005) stated 6 steps as being involved in doing a scoping review as detailed in Table 1.

Table 1: **Overview of the Arksey and O'Malley methodological framework for conducting a scoping study**

Arksey and O'Malley Framework Stage	Description
Identifying the research question	Identifying the research question provides the roadmap for subsequent stages. Relevant aspects of the question must be clearly defined as they have ramifications for research strategies. Research questions are broad in nature as they seek to provide breadth of coverage.
Identifying relevant studies	This stage involves identifying the relevant studies and developing a decision plan for where to search, which terms to use, which sources are to be searched, time span, and organizations and conferences. Sources include electronic databases, reference lists, hand searching of key journals, and organizations and conferences. Breadth is important; however, practicalities of the search are as well. Time, budget and personnel resources are potential limiting factors and decisions need to be made upfront about how these will impact the search.
Study selection	Study selection involves post hoc inclusion and exclusion criteria. These criteria are based on the specifics of the research question and on new familiarity with the subject matter through reading the studies.
Charting the data	A data-charting form is developed and used to extract data from each study. A 'narrative review' or 'descriptive analytical' method is used to extract contextual or process oriented information from each study.

Collating, summarizing, and reporting results	An analytic framework or thematic construction is used to provide an overview of the breadth of the literature but not a synthesis. A numerical analysis of the extent and nature of studies using tables and charts is presented. A thematic analysis is then presented. Clarity and consistency are required when reporting results.
Consultation (optional)	Provides opportunities for consumer and stakeholder involvement to suggest additional references and provide insights beyond those in the literature.

Source: Levac et al., 2010

3.1 Databases Consulted

Information used for the paper was retrieved from the following databases; Emerald insight database; Google Scholar; Directory of Open Access Repository and BioMed Central; Implementation science.

4.0 Results and discussions

4.1 Advantages and disadvantages of IRs

4.1.1 Advantages

According to Yeates (2003), the benefits of IRs can be grouped into three categories, namely benefits for users, institutions and benefits for individual researchers. For users, the author opines that IRs provide expansion of the range of knowledge that can be shared and opportunities to simplify and extend dissemination.

For institutions, IRs enable Intellectual Property Rights (IPR) to be exploited more effectively, leverage of existing investments in information and content management systems and highlighting of the quality of intellectual capital. They make research output of the institution more readily available, to preserve and organise the institution's research output, and to enhance the reputation of the institution.

Many of the benefits of IRs identified are at the institutional level, or even at the national level. In Japan, for example, the Ministry of Education, Culture, Sports, Science and Technology has encouraged Japanese university libraries to develop institutional repositories to promote

sharing of knowledge throughout Japan and internationally (Cullen and Nagata, 2008). In a survey of academic library directors and senior administrators carried out by Rieh et al. (2006) identified “capturing the intellectual capital of the institution” as the most important benefit of an institutional repository (Rieh et al., 2007).

Improved long-term preservation of the institution’s digital assets is another benefit to be realised through centralising content in known, standardized formats. Other proposed benefits focus on increased institutional prestige from exposing research carried out by staff and students – a much more effective way of highlighting an institution’s total academic outputs, which are otherwise spread among many publications. A further benefit arises in increased differentiation between institutions, because of the unique content in individual repositories, and suggests that potential students with an interest in a discipline may be attracted to an institution that makes its research in the field widely available through a repository.

For individual researchers, the primary reasons used to persuade academics of the benefits of placing their output in an institutional repository is exposure – that by having their research and publications openly available on the web, not just in fee-based databases, scholarly journals, or books, their work is likely to be used and cited more. As a result, their reputation will be enhanced over the long-term, due to the recognition they gain from this (Pinfield et al., 2002 cited in Cullen and Chawner, 2010). Other benefits to researchers include stewardship and preservation of their publications in digital form, which frees them from the need to maintain this content on a personal computer or web site (Lynch, 2003 cited in Cullen and Chawner, 2010).

The benefits of institutional repositories can also be categorized, Kim suggests, as extrinsic benefits such as accessibility, increased publicity for the research, trustworthiness of documents, recognition for the individual and the institution, and academic reward, all of which are related to the contribution that IRs make to scholarly communication, and which may motivate researchers to deposit. Intrinsic benefits, by contrast, relate more to the altruistic intention of the depositor to make their findings available to colleagues and stakeholders, as well as the value of a knowledge management system for the management of research outputs (Kim, 2007).

4.1.2 Disadvantages

The drawbacks according to Yeates (2003) is that they affect the balance of institutional powers as some departments proceed faster than others; they rely on unproven methods for long term digital preservation; they may need quick wins to sustain institutional support; and initial costs may be high as contributors perceive high risks and duplicate effort to reduce them. For instance, setting up a repository is a major undertaking for an institution (Jones et al., 2006). Setting up an IR requires a commitment of financial and staff resources for both the establishment and the maintenance of the repository, a well-developed process for establishing its authority and value in the institution, and an overt public relations campaign in the academic community to persuade individual academics to deposit their research outputs (Cullen and Chawner, 2008a cited in Cullen and Chawner, 2010). The lack of community engagement suggested by the apparent difficulty in recruiting content for IRs highlights the fact that current work practices in scholarly communication need to be considered in designing repositories.

In their study to assess the value of IRs to the academic community in New Zealand tertiary institutions, Cullen and Chawder (2010), the academic community interviewed stated the following to be the disadvantages of depositing the articles to the IRs. These are that depositing in an IR adds extra workload for staff, institutional repositories are not as easy to use as journal indexes and Databases, institutional repositories may breach the confidentiality of data in some Research, institutional repositories risk reducing the value of the peer review process, institutional repositories will expose more work to plagiarism, when everyone is required to deposit their research in an institutional repository there will be no competitive advantage in doing so.

4.2 The advantages in cultural heritage context

In her paper “Opening Access to collections: the making and using of open digitized cultural content”, Terras (2015), points out that many projects produced within the sciences can choose to make their data sets, which they have often gathered and created themselves, available (although licensing constraints sometime apply). She further asserts that, however, those producing research material within the arts, humanities, culture and heritage depend, for the most part, on access to primary historical sources which often belong to and are located in memory institutions such as galleries, libraries, archives and museums (GLAM), or reside in private collections. While digitization is not a prerequisite to gaining access to material (which

can be viewed in its original, analogue form), and while digital surrogates of cultural heritage objects do not have to be openly shared once created, just as the sciences are calling for publication of source data as part of the open access movement (OAM), opening up access to primary sources in the cultural heritage sector and encouraging them to be published in a way which is as accessible as possible has the potential to change the nature of research outputs in the humanities and social sciences, as well as the nature of research itself in these areas.

The growing voice of the OA community is influencing policy within organizations and making digitized cultural heritage content more accessible. This encourages its publication, reuse and integration into research outputs, which results in a virtuous circle of encouraging use and access of digitized primary historical source content.

If the legal and licensing, or financial, and frameworks which hamper increased access and use of digitized cultural heritage materials are reduced or eliminated altogether, literature on digitization claims that, once created, digital surrogates of primary historical documents and artefacts will be able to be enjoyed by an “unlimited audience” (Keene, 1998, cited in Terras, 2015) which will allow individuals:

“to enjoy replicas of artefacts and museum environments from a distance and to avoid the spatial and temporal limitations of an actual visit to a museum. In turn, the increased accessibility of cultural contents would underpin a process of democratization of culture which openly resonated with the main proposals of the New Museology thinking of the 1970s and 1980s (Sartori, 2015)”.

Other reasons commonly given for undertaking digitization within a cultural heritage environment include:

“immediate access to high-demand and frequently used items; easier access to individual components within items (e.g. articles within journals); rapid access to materials held remotely; the ability to reinstate out of print materials; the potential to display materials that are in inaccessible formats, for instance, large volumes, or maps; “virtual reunification” – allowing dispersed collections to be brought together; the ability to enhance digital images in terms of size, sharpness, color contrast, noise reduction, etc.; the potential to conserve fragile/precious objects while presenting surrogates in more accessible forms; the potential for integration into teaching materials; enhanced search ability, including full text; integration of digital media (images, sounds, video, etc.); the ability to satisfy requests for surrogates

(photocopies, photographic prints, slides, etc.); reducing the burden of cost of delivery; the potential for presenting a critical mass of materials (Deegan and Tanner, 2002)”.

Hidden collections are a potential security threats if classified or confidential information is mishandled. They are a problematic insurance issue and hard to be replaced if these unknown or undocumented items are stolen. Moreover, hidden collections can be a hindrance to research and scholarship when patrons, who may have journeyed to the collection, cannot be sure of what they would find (Mcintosh et al, 2017 citing Haskel, 2005, p. 96).

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4.3 Disadvantages of IR in cultural heritage context

The digitization of 3D models to reflect surrogates (substitutes) of the cultural heritage resources require expensive state of the art structured light acquisition techniques for geometry and textural (colour) only-without considering view dependent reflectance properties. The acquisition times grow with the size and complexity of the objects if the geometric resolution is not relaxed. A large share of the acquisition time is dedicated/required by manually repositioning the scanner, making the most 3D digitization prohibitively expensive. Moreover, the process of building virtual surrogates from existing cultural heritage resources often requires an investment of several thousand funds per object. These costs and time are simply prohibitive at the expense of other IR resource acquisitions in the institution (Santos et al., 2014). For example, the author shows that the effort for 3D geometry texture and material acquisition of bust-objects takes approximately 36 hours to digitize it. Other disadvantages include limitation to attraction of funds for an institution due to reduced tourist visits to the cultural heritage sites and compromise on intellectual property issues.

4.4 Challenges of Institutional Repositories

Challenges are part of life and so need to be embraced when it happens as this will help an individual to always prepare for it and then know how to deal with it. Institutional repositories have really come to help with the spreading and sharing of knowledge across the length and breadth of the world, notwithstanding this, they face several challenges that makes it difficult for them to serve their actual purpose for which they were set up. It has been observed that one of the challenges of repositories is cost. It is a fact that there is the existence of software that are open source and proprietary. It is also well understood that majority of institutions go in for the open source one which is entirely free so that they can customize or scheme it to suit their own specifications. Whether open source or proprietary there is always a cost to take care of and this cost mostly come in the form of maintenance and skilled IT person to check it for you

and make sure contents are always available for retrieval. These and other related cost issues at times defeats the purpose for the establishment of the IR by some institutions (Li & Banach, 2011).

The refusal or unwillingness of some of intellectuals found in the academia to share their contents coupled with copyright issues make it difficult for repositories to achieve their aim. Some members in the academia have different perception of the institutional repository and so do not want to have anything to do with it and this makes it hard and defeats the purpose of knowledge sharing. Issues of copyright on the other hand makes it difficult for Institutional repositories to host and share works or contents of such status (Armstrong, 2014).

Another challenge which is mostly associated with developing countries especially Africa is unstable power supply and internet connectivity. These two issues mentioned are one of the major hindrances that results in the unavailability of contents when one visits a particular repository website. All these play a role in making lost or hidden cultures inaccessible at times (Ezeama, 2013).

5.0 Conclusion and Recommendation

5.1 Conclusion

The believe that institutional repositories have made lost or hidden cultures accessible is something that needs to be encouraged so that new generations would have the opportunity to learn and know what transpired in the past. This will also help in clearing doubts about one's culture since the repository housing these special collections will produce evidence to clear the air thereby preventing the chance for any misleading information to be circulated. At the same time, proper care or attention should be attached to the protection of certain contents bearing in mind patent rights or copyright

In order to ensure continuity and change, special collections containing important information which would be good for human consumption should be kept and made accessible. Above all, it would be concluded that no matter the demerits, this trend should be encouraged so that society will get to know more about its past and also appreciate any other relevant information that had been hidden from it.

5.2 Recommendations

The recommendations were made based on the available literature reviewed on this particular paper understudy.

- It is highly recommended that special collections should be made accessible to the society because it is the newer generation that tends to benefit more from it
- It is also recommended that the rich culture of Africa stored in the name of special collections should be made known to the world and whoever wishes to know more about the continent and its culture
- The youth or new generation should be exposed to these materials or documents to help instill some sort of nationalism in them

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